What is claimed is:

1. A method for identifying a compound which modulates the activity of a polypeptide selected from the group consisting of:

(a) an isolated polypeptide which is encoded by the nucleotide sequence contained in the plasmid deposited with ATCC as Accession Number PTA-1530;

(b) an isolated cardiac-related ankyrin-repeat protein kinase polypeptide comprising an amino acid sequence encoded by a nucleic acid molecule which hybridizes to a complement of a nucleic acid molecule consisting of SEQ ID NO:1, 3, 7 or 9, in 6X SSC at 45°C, followed by one or more washes in 0.2X SSC, 0.1% SDS at 65°C;

(c) an isolated cardiac-related ankyrin-repeat protein kinase polypeptide which is encoded by a nucleic acid molecule comprising a nucleotide sequence which is at least 90% identical to the nucleotide sequence of SEQ ID NO:1, 3, 7 or 9;

(d) an isolated cardiac-related ankyrin-repeat protein kinase polypeptide comprising an amino acid sequence which is at least 90% identical to the amino acid sequence of SEQ ID NO:2 or 8;

(e) an isolated polypeptide consisting of at least 25 consecutive amino acid residues of the amino acid sequence of SEQ ID NO:2 or 8; and

(f) an isolated polypeptide comprising amino acid residues 463-716 of SEQ ID NO:2 or 8, the method, comprising:

contacting the polypeptide or a cell expressing the polypeptide with a test compound; and

determining the effect of the test compound on the activity of the polypeptide to thereby identify a compound which modulates the activity of the polypeptide.

2. The method of claim 1, wherein the polypeptide comprises the amino acid sequence of SEQ ID NO:2 or 8.

3. The method of claim 1, wherein the activity is a kinase activity.

4. The method of claim 3, wherein the effect of the test compound on the kinase activity of the polypeptide is determined by monitoring autophosphorylation of the polypeptide.

5. The method of claim 3, wherein the effect of the test compound on the kinase activity of the polypeptide is determined by monitoring phosphorylation of a heterologous substrate.

6. The method of claim 5, wherein the heterologous substrate is selected from the group consisting of H1 histone, myelin basic protein, ATF-2 and Phas-1.

7. The method of claim 1, wherein the activity is modulation of cell proliferation.

8. The method of claim 1, wherein the activity is modulation of cell growth.

9. The method of claim 1, wherein the activity is modulation of cell differentiation.

10. The method of claim 1, wherein the cell expressing the polypeptide is a heart cell.

11. The method of claim 1, wherein the compound inhibits the activity of the polypeptide.

12. The method of claim 1, wherein the compound stimulates the activity of the polypeptide.